CLAIMS

What is claimed is:

1. An apparatus for detecting wafer position, comprising:

a first sensor group, wherein said first sensor group includes at least one first light emitter and at least one first light receiver to detect a first wafer position; and

a second sensor group, wherein said second sensor group includes at least one second light emitter and at least one second light receiver to detect a second wafer position.

2. The apparatus for detecting wafer position according to claim 1, wherein said first light emitter is at one side beside said wafer and said first light receiver is at the same height with said first light emitter at the opposing side beside said wafer, and said first light emitter and said first light receiver detect said first wafer position by determining whether said wafer blocks light emitted by said first light emitter.

3. The apparatus for detecting wafer position according to claim 1, wherein said first light emitter neighbors said first light receiver vertically at the same side beside said wafer, and said first light emitter and said first light receiver detect said first wafer position by determining whether said first light receiver receives said light emitted from said first light emitter and reflected by said wafer.

4. The apparatus for detecting wafer position according to

claim 1, wherein said second light emitter is at one side beside said wafer and said second light receiver is at the same height with said second light emitter at the opposing side beside said wafer, and said second light emitter and said second light receiver detect said second wafer position by determining whether said wafer blocks light emitted by said second light emitter.

5. The apparatus for detecting wafer position according to claim 1, wherein said second light emitter neighbors said second light receiver vertically at the same side beside said wafer, and said second light emitter and said second light receiver detect said second wafer position by determining whether said second light receiver receives said light emitted from said second light emitter and reflected by said wafer.

6. A method for detecting wafer position, comprising:

providing a wafer lifter and putting a wafer on said wafer lifter, wherein a connecting rod of said wafer lifter is at the lowest position inside said wafer lifter;

lifting said wafer by means of said wafer lifter, wherein said wafer triggers a first sensor group when said wafer passes through light emitted by said first sensor group and said first sensor group detects a first wafer position;

lifting said wafer continuously until said wafer completely passes by said first sensor group, wherein said wafer triggers said first sensor group again and said first sensor group recognizes that said wafer has passed by said first wafer position completely;

lifting said wafer continuously until said wafer passes a second

sensor group, wherein said wafer triggers said second sensor group, and in a normal situation, said connecting rod of said wafer lifter is at the highest position inside said wafer lifter and afterwards a robot blade enters a process chamber including said wafer lifter to clamp said wafer; and

in abnormal situations, when two opposing sides of said wafer are not at the same height level, said wafer does not simultaneously block a plurality of light beams emitted by a plurality of first light emitters of said first sensor group and does not simultaneously block a plurality of light beams emitted by a plurality of light emitters of said second sensor group, or said wafer simultaneously blocks said light beams emitted by said first sensor group and light beams emitted by said second sensor group, and the time interval between the trigger of the first sensor group and the trigger of the second sensor group deviates the predetermined time interval, at the moment, said robot blade and said wafer lifter are stopped by equipment including said wafer lifter and said equipment alarms to people in a operating line to proceed with trouble shooting.

7. The method for detecting wafer position according to claim 6, wherein said first sensor group includes at least one first light emitter and at least one first light receiver.

8. The method for detecting wafer position according to claim 7, wherein said first light emitter is at one side beside said wafer and said first light receiver is at the same height with said first light emitter at the opposing side beside said wafer, and said first light emitter and said first light receiver detect said first wafer position by determining

whether said wafer blocks light emitted by said first light emitter.

9. The method for detecting wafer position according to claim 7, wherein said first light emitter neighbors said first light receiver vertically at the same side beside said wafer, and said first light emitter and said first light receiver detect said first wafer position by determining whether said first light receiver receives said light emitted from said first light emitter and reflected by said wafer.

10. The method for detecting wafer position according to claim 6, wherein said second sensor group includes at least one second light emitter and at least one second light receiver.

11. The method for detecting wafer position according to claim 10, wherein said second light emitter is at one side beside said wafer and said second light receiver is at the same height with said second light emitter at the opposing side beside said wafer, and said second light emitter and said second light receiver detect said second wafer position by determining whether said wafer blocks light emitted by said second light emitter.

12. The method for detecting wafer position according to claim 10, wherein said second light emitter neighbors said second light receiver vertically at the same side beside said wafer, and said second light emitter and said second light receiver detect said second wafer position by determining whether said second light receiver receives said light emitted from said second light emitter and reflected by said wafer.